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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/803,225	03/16/2004	Zeying Ma	200309561-1	5644

22879 7590 03/28/2011

HEWLETT-PACKARD COMPANY
Intellectual Property Administration
3404 E. Harmony Road
Mail Stop 35
FORT COLLINS, CO 80528

EXAMINER	
FREEMAN, SHEMA TAIAN	
ART UNIT	PAPER NUMBER
2854	

NOTIFICATION DATE	DELIVERY MODE
03/28/2011	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

JERRY.SHORMA@HP.COM
ipa.mail@hp.com
laura.m.clark@hp.com

Office Action Summary	Application No.	Applicant(s)	
	10/803,225	MA ET AL.	
	Examiner	Art Unit	
	SHEMA T. FREEMAN	2854	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 January 2011*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-6,10-17,19-22 and 26-41* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-6,10-17,19-22 and 26-41* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *01/19/2011*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 4, 10, 14, 16, 17, 20 , 22, 26, 27, 29 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tomotake et al (US 2003/0169320) in view of Askeland et al (US 6,443,568) and Nakamura et al. (JP 2000-103044 A).

Regarding claims 1 and 17, Tomotake teaches a system and method for printing durable ink-jet ink images, comprising:

a) offset media (1, Fig 1);

b) an aqueous ink-jet ink (pg 3, par [0048]) comprising latex particulates dispersed therein (pg 9, par [0128]) and including a pigment colorant (pg 3, par [0048; pg 5, par [0073]]), said ink-jet ink being configured to be ink-jetted onto the offset media (coated paper; pg 10, par [0138]);

d) a calendaring device (heat and pressure applying means; 4, Fig 1) configured for applying pressure and heat to offset media once the ink-jet ink is ink-jetted thereon

(pg 10; par [0141]), wherein the pressure is mechanical pressure applied at from 500psi to 3000 psi (pg 10; par [0142]).

Tomotake fails to teach c) a fixer composition including a crashing agent that is reactive with a component of the ink-jet ink, said fixer composition being configured to be overprinted or underprinted on the offset media with respect to the ink-jet ink and wherein the heat to be applied is from 20°C to 90°C.

Askeland teaches a fixer composition including a crashing agent that is reactive with a component of the ink-jet ink, said fixer composition being configured to be overprinted or underprinted on the offset media with respect to the ink-jet ink (column 3, lines 31-37 and 45-47). It would have been obvious to one of ordinary skill in the art at the time of invention to modify the system and method of Tomotake to include a fixer composition as taught by Askeland to produce more durable ink jet printed images which are less susceptible to smudging as stated in Askeland (column 3, lines 47-49).

The combination of Tomotake and Askeland fails to teach wherein the heat to be applied is from 20°C to 90°C. Nakamura teaches heat to be applied is from 20°C to 90°C (pg 6, par [0039]) in order to improve glossiness of the ink (pg 7, par [0051]). Tomotake teaches subjecting the offset media to application of heat and/or pressure for the purpose of improving glossiness (pg 10, par [0141]). It would have been obvious to one of ordinary skill in the art at the time of invention to further modify the system and method taught by Tomotake and Askeland such that the calendaring device to apply heat is from 20°C to 90°C in order to improve the glossiness of the ink as suggested by Nakamura (pg 7, par [0051]).

Regarding claims 4 and 20, Tomotake teaches wherein the latex particulates are dispersed in the ink-jet ink at from 0.1 wt% to 15 wt% (pg 9, par [0132]).

Regarding claims 10 and 26, Askeland teaches wherein the crashing agent is selected from the group consisting of cationic polymers, multivalent metal ions or ionic groups, acids, and combinations thereof (column 3, lines 31-37 and 45-47).

Regarding claims 14 and 27, Tomotake teaches wherein the latex particulates comprise randomly polymerized copolymers, said latex particulates being predominantly from 20 nm to 500 nm in size (pg 9, par [0131]) and predominantly from 10,000 Mw to 2,000,000 Mw (It has been held that where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of anticipation of claimed material properties has been established (In re Best, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). Since it appears that the structure of Tomotake is at least substantially identical to the structure claimed, any recitation to the property of Mw is presumed inherent.).

Regarding claim 16, Tomotake teaches wherein the calendaring device includes a pair of rollers that are configured to apply pressure and heat to the offset media once the ink-jet ink is printed thereon (4, Fig 1).

Regarding claim 22, Tomotake teaches wherein the pigment colorant is present in the ink-jet ink at from 0.5 wt% to 10 wt% (pg 4, par [0094]).

Regarding claim 29, Tomotake teaches wherein the physical property is smoothness, wherein upon applying pressure, the printed image is modified from having

a textured profile to a smoother profile (Tomotake teaches “improving glossiness.” The definition of glossiness is having texture without roughness or smooth to the touch. pg 10, par [0141]).

Regarding claim 30, Tomotake teaches wherein the physical property is flow, wherein upon applying pressure, the printed image is temporarily modified from a more solid configuration to a more liquid configuration (Tomotake teaches ”to fuse.” The definition of fuse is to become united as if by melting together. (pg 10; par [0141]).

3. Claims 3, 12, 13, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tomotake et al. (US 2003/0169320) in view of Askeland et al (US 6,443,568) and Nakamura et al. (JP 2000-103044 A) as applied to claims 1, 10, and 17 above, and further in view of Doumaux (US 6,412935).

Regarding claims 3 and 19, Tomotake as modified by Askeland and Nakamura teaches all the claimed elements except wherein the crashing agent is present in the fixer composition at from 0.1 wt% to 10 wt%. Doumaux teaches a crashing agent is present in the fixer composition at from 0.1 wt% to 10 wt% (column 4, lines 22-24). It would have been obvious to one of ordinary skill in the art at the time of invention to modify the system and method taught by Tomotake and Askeland such that the crashing agent is present in the fixer composition at from 0.1 wt% to 10 wt% to provide the appropriate pH balance to the fixer fluid as suggested by Doumaux (column 4, lines 3-5).

Regarding claim 12, Tomotake as modified by Askeland and Nakamura teaches wherein the crashing agent is a multivalent metal ion or ionic group (Askeland column 3, lines 31-37 and 45-47) but fails to explicitly teach is provided by a member selected from the group consisting of multivalent metal nitrates, EDTA salts, phosphonium halide salts, organic acids, chloride salts, and combinations thereof.

Doumaux teaches is provided by a member selected from the group consisting of multivalent metal nitrates, EDTA salts, phosphonium halide salts, organic acids (column 3, lines 65-67), chloride salts, and combinations thereof. It has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended (*In re Leshin*, 125 USPQ 416). Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to select a crashing agent from the group consisting of multivalent metal nitrates, EDTA salts, phosphonium halide salts, organic acids, chloride salts, and combinations thereof to precipitate the ink-jet composition and prevent color bleeding.

Regarding claim 13 Tomotake as modified by Askeland and Nakamura teaches wherein the crashing agent is a multivalent metal ion or ionic group (Askeland column 3, lines 31-37 and 45-47) but fails to explicitly teach the crashing agent is an acid selected from the group consisting of succinic acid, glycolic acid, citric acid, nitric acid, hydrochloric acid, phosphoric acid, sulfuric acid, polyacrylic acid, acetic acid, malonic acid, maleic acid, ascorbic acid, glutaric acid, fumaric acid, tartaric acid, lactic acid, nitrous acid, boric acid, carbonic acid, carboxylic acids such as formic acid, chloroacetic acid, dichloroacetic acid, trichloroacetic acid, fluoroacetic acid, trimethylacetic acid,

methoxyacetic acid, mercaptoacetic acid, propionic acid, butyric acid, valeric acid, caprioc acid, caprylic acid, capric acid, lauric acid, myristic acid, palmitic acid, stearic acid, oleic acid, rinolic acid, rinoleic acid, cyclohexanecarboxylic acid, phenylacetic acid, benzoic acid, o-toluic acid, m-toluic acid, p-toluic acid, o-chlorobenzoic acid, m-chlorobenzoic acid, p-chlorobenzoic acid, o-bromobenzoic acid, m-bromobenzoic acid, p- bromobenzoic acid, o-nitrobenzoic acid, m-nitrobenzoic acid, p-nitrobenzoic acid, oxalic acid, adipic acid, phthalic acid, isophthalic acid, terephthalic acid, salicylic acid, p-hydrobenzoic acid, anthranilic acid, m-aminobenzoic acid, p-aminobenzoic acid, benzenesulfonic acid, methylbenzenesulfonic acid, ethylbenzenesulfonic acid, dodecylbenzenesulfonic acid, 5- sulfosalicylic acid, 1-sulfonaphthalene, hexanesulfonic acid, octanesulfonic acid, dodecanesulfonic acid, amino acids such as glycine, alanine, valine, α-aminobutyric acid, α-aminobutryic acid, α- alanine, taurine, serine, α-amino-n-caprioc acid, leucine, norleucine, phenylalanine, and combinations thereof.

Doumaux teaches the crashing agent is an acid selected from the group consisting of succinic acid, glycolic acid, citric acid, nitric acid, hydrochloric acid, phosphoric acid, sulfuric acid, polyacrylic acid, acetic acid, malonic acid, maleic acid, ascorbic acid, glutaric acid, fumaric acid, tartaric acid, lactic acid, nitrous acid, boric acid, carbonic acid, carboxylic acids such as formic acid, chloroacetic acid, dichloroacetic acid, trichloroacetic acid, fluoroacetic acid, trimethylacetic acid, methoxyacetic acid, mercaptoacetic acid, propionic acid, butyric acid, valeric acid, caprioc acid, caprylic acid, capric acid, lauric acid, myristic acid, palmitic acid, stearic acid, oleic acid, rinolic acid, rinoleic acid, cyclohexanecarboxylic acid, phenylacetic acid,

benzoic acid, o-toluic acid, m-toluic acid, p-toluic acid, o-chlorobenzoic acid, m-chlorobenzoic acid, p-chlorobenzoic acid, o-bromobenzoic acid, m-bromobenzoic acid, p- bromobenzoic acid, o-nitrobenzoic acid, m-nitrobenzoic acid, p-nitrobenzoic acid, oxalic acid, adipic acid, phthalic acid, isophthalic acid, terephthalic acid, salicylic acid, p-hydrobenzoic acid, anthranilic acid, m-aminobenzoic acid, p-aminobenzoic acid, benzenesulfonic acid, methylbenzenesulfonic acid, ethylbenzenesulfonic acid, dodecylbenzenesulfonic acid, 5- sulfosalicylic acid, 1-sulfonaphthalene, hexanesulfonic acid, octanesulfonic acid, dodecanesulfonic acid, amino acids such as glycine, alanine, valine, α-aminobutyric acid, α-aminobutryic acid, α- alanine, taurine, serine, α-amino-n-caprioc acid, leucine, norleucine, phenylalanine, and combinations thereof (column 4, lines 6-9).

It has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended (*In re Leshin*, 125 USPQ 416). Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to select a crashing agent from the group consisting of succinic acid, glycolic acid, citric acid, nitric acid, hydrochloric acid, phosphoric acid, sulfuric acid, polyacrylic acid, acetic acid, malonic acid, maleic acid, ascorbic acid, glutaric acid, fumaric acid, tartaric acid, lactic acid, nitrous acid, boric acid, carbonic acid, carboxylic acids such as formic acid, chloroacetic acid, dichloroacetic acid, trichloroacetic acid, fluoroacetic acid, trimethylacetic acid, methoxyacetic acid, mercaptoacetic acid, propionic acid, butyric acid, valeric acid, caprioc acid, caprylic acid, capric acid, lauric acid, myristic acid, palmitic acid, stearic acid, oleic acid, rinolic acid, rinoleic acid,

cyclohexanecarboxylic acid, phenylacetic acid, benzoic acid, o-toluic acid, m-toluic acid, p-toluic acid, o-chlorobenzoic acid, m-chlorobenzoic acid, p-chlorobenzoic acid, o-bromobenzoic acid, m-bromobenzoic acid, p- bromobenzoic acid, o-nitrobenzoic acid, m-nitrobenzoic acid, p-nitrobenzoic acid, oxalic acid, adipic acid, phthalic acid, isophthalic acid, terephthalic acid, salicylic acid, p-hydrobenzoic acid, anthranilic acid, m-aminobenzoic acid, p-aminobenzoic acid, benzenesulfonic acid, methylbenzenesulfonic acid, ethylbenzenesulfonic acid, dodecylbenzenesulfonic acid, 5- sulfosalicylic acid, 1-sulfonaphthalene, hexanesulfonic acid, octanesulfonic acid, dodecanesulfonic acid, amino acids such as glycine, alanine, valine, α-aminobutyric acid, α-aminobutryic acid, α- alanine, taurine, serine, α-amino-n-caprioc acid, leucine, norleucine, phenylalanine, and combinations thereof to precipitate the ink-jet composition and prevent color bleeding.

4. Claims 5, 6, 15, 21 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tomotake et al (US 2003/0169320) in view of Askeland et al (US 6,443,568) and Nakamura et al. (JP 2000-103044 A) as applied to claims 1 and 17 above, and further in view of Koike (US 2002/0192003).

Regarding claims 5 and 21, Tomotake as modified by Askeland and Nakamura teaches all the claimed elements except an overcoat composition including a liquid vehicle having latex particulates dispersed therein, said overcoat composition being configured to be overcoated with respect to the ink-jet ink.

Koike teaches an overcoat composition including a liquid vehicle having latex particulates dispersed therein, said overcoat composition being configured to be overcoated with respect to the ink-jet ink (pg 6, par [0064]). It would have been obvious to one of ordinary skill in the art at the time of invention to modify the system and method taught by Tomotake, Askeland and Nakamura such that an overcoat composition including a liquid vehicle having latex particulates dispersed therein, said overcoat composition being configured to be overcoated with respect to the ink-jet ink to improve the physical strength of the image receiving layer as suggested by Koike (pg 6, par [0061]).

Regarding claim 6, Koike teaches wherein the latex particulates are present in the overcoat composition at from 0.1 wt% to 15 wt% (pg 6, par [0064]).

Regarding claims 15 and 28, Tomotake teaches wherein the latex particulates comprise randomly polymerized copolymers, said latex particulates being predominantly from 20 nm to 500 nm in size (pg 9, par [0131]) and predominantly from 10,000 Mw to 2,000,000 Mw (It has been held that where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of anticipation of claimed material properties has been established (In re Best, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). Since it appears that the structure of Tomotake is at least substantially identical to the structure claimed, any recitation to the property of Mw is presumed inherent.).

5. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tomotake et al (US 2003/0169320) in view of Askeland et al (US 6,443,568) and Nakamura et al. (JP 2000-103044 A) as applied to claim 10, and further in view of Tsang (US 6,450,632).

Regarding claim 11, Tomotake as modified by Askeland and Nakamura teaches all the claimed elements except explicitly wherein the crashing agent is a cationic polymer selected from the group consisting of polyvinylpyridines, polyalkylaminoethyl acrylates, polyalkylaminoethyl methacrylates, poly(vinyl imidazole), polyethyleneimines, polybiguanides, polyguanides, polyvinylamines, polyallylamines, polyacrylamines, polyacrylamides, polyquatemaryamines, cationic polyurathenes, aminecelluloses, polysacchride amines, and combinations thereof.

Tsang teaches a fixer fluid with polyethyleneimines as the crashing agent (column 5, line 60). It has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended (*In re Leshin*, 125 USPQ 416). Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to modify the system and method taught by Tomotake, Askeland and Nagata such that such that the fixer fluid of included polyethyleneimines as the crashing agent to precipitate the ink-jet composition and prevent color bleeding.

6. Claims 31 and 38-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tomotake et al (US 2003/0169320) in view of Koike et al (US 2002/0192003) and Nakamura et al. (JP 2000-103044 A).

Regarding claim 31, Tomotake teaches a system and method for printing durable ink-jet ink images, comprising:

a) offset media (1, Fig 1);

b) an aqueous ink-jet ink (pg 3, par [0048]) comprising latex particulates dispersed therein (pg 9, par [0128]) and including a pigment colorant (pg 3, par [0048; pg 5, par [0073]]), said ink-jet ink being configured to be ink-jetted onto the offset media; and

d) a calendaring device configured for applying pressure and heat to offset media once the ink-jet ink is ink-jetted thereon (4, Fig 1; pg 10, par [0141]), wherein the pressure applied at from 500 psi to 3000 psi (pg 10; par [0142]).

Tomotake fails to teach c) an overcoat composition including a liquid vehicle having latex particulates dispersed therein, said overcoat composition being configured to be overcoated with respect to the ink-jet ink, said latex particulates being present in the overcoat composition at from 0.1 wt% to 15 wt%; and, wherein the pressure is mechanical pressure applied at from 500 psi to 3000 psi, and wherein the heat to be applied is from 20°C to 90°C.

Koike teaches an overcoat composition including a liquid vehicle having latex particulates dispersed therein, said overcoat composition being configured to be overcoated with respect to the ink-jet ink (pg 6, par [0064]) and wherein the latex particulates are present in the overcoat composition at from 0.1 wt% to 15 wt% (Koike pg 6, par [0064]). It would have been obvious to one of ordinary skill in the art at the time of invention to modify the system and method taught by Tomotake such that an

overcoat composition including a liquid vehicle having latex particulates dispersed therein, said overcoat composition being configured to be overcoated with respect to the ink-jet ink to improve the physical strength of the image receiving layer as suggested by Koike (pg 6, par [0061]).

The combination of Tomotake and Koike fails to teach wherein the heat to be applied is from 20°C to 90°C. Nakamura teaches heat to be applied is from 20°C to 90°C (pg 6, par [0039]) in order to improve glossiness of the ink (pg 7, par [0051]). Tomotake teaches subjecting the offset media to application of heat and/or pressure for the purpose of improving glossiness (pg 10, par [0141]). It would have been obvious to one of ordinary skill in the art at the time of invention to further modify the system and method taught by Tomotake and Koike such that the calendaring device to apply heat is from 20°C to 90°C in order to improve the glossiness of the ink as suggested by Nakamura (pg 7, par [0051]).

Regarding claim 38, Tomotake teaches wherein the latex particulates are dispersed in the ink-jet ink at from 0.1 wt% to 15 wt% (pg 9, par [0132]).

Regarding claims 39 and 40, Tomotake teaches wherein the latex particulates comprise randomly polymerized copolymers, said latex particulates being predominantly from 20 nm to 500 nm in size (pg 9, par [0131]) and predominantly from 10,000 Mw to 2,000,000 Mw (It has been held that where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of anticipation of claimed material properties has been established (In re Best, 562 F.2d 1252, 1255, 195

USPQ 430, 433 (CCPA 1977). Since it appears that the structure of Tomotake is at least substantially identical to the structure claimed, any recitation to the property of Mw is presumed inherent.).

Regarding claim 41, Tomotake teaches wherein the calendaring device includes a pair of rollers that are configured to apply pressure and heat to the offset media once the ink-jet ink is printed thereon (4, Fig 1).

7. Claims 32 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tomotake et al (US 2003/0169320) in view of Koike et al (US 2002/0192003) and Nakamura et al. (JP 2000-103044 A) as applied to claim 31 above, and further in view of Askeland et al (US 6,443,568).

Regarding claim 32, Tomotake as modified by Koike and Nakamura teaches all the claimed elements except a fixer composition including a crashing agent that is reactive with a component of the ink-jet ink, said fixer composition being configured to be overprinted or underprinted on the offset media with respect to the ink-jet ink.

Askeland teaches a fixer composition including a crashing agent that is reactive with a component of the ink-jet ink, said fixer composition being configured to be overprinted or underprinted on the offset media with respect to the ink-jet ink (column 3, lines 31-37 and 45-47). It would have been obvious to one of ordinary skill in the art at the time of invention to modify the system and method of Tomotake to include a fixer composition as taught by Askeland so produce more durable ink jet printed images which are less susceptible to smudging as stated in Askeland (column 3, lines 47-49).

Regarding claim 34, Askeland teaches wherein the crashing agent is selected from the group consisting of cationic polymers, multivalent metal ions or ionic groups, acids, and combinations thereof (column 3, lines 31-37 and 45-47).

8. Claims 33, 36, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tomotake et al (US 2003/0169320) in view of Koike et al (US 2002/0192003), Nakamura et al. (JP 2000-103044 A) and Askeland et al (US 6,443,568) as applied to claim 32 above, and further in view of Doumaux (US 6,412935).

Regarding claim 33, Tomotake as modified by Koike, Nakamura and Askeland teaches all the claimed elements except wherein the crashing agent is present in the fixer composition at from 0.1 wt% to 10 wt%. Doumaux teaches a crashing agent is present in the fixer composition at from 0.1 wt% to 10 wt% (column 4, lines 22-24). It would have been obvious to one of ordinary skill in the art at the time of invention to modify the system and method taught by Tomotake, Koike, Nagata and Askeland such that the crashing agent is present in the fixer composition at from 0.1 wt% to 10 wt% to provide the appropriate pH balance to the fixer fluid as suggested by Doumaux (column 4, lines 3-5).

Regarding claim 36, Tomotake as modified by Koike, Nakamura and Askeland teaches wherein the crashing agent is a multivalent metal ion or ionic group (Askeland column 3, lines 31-37 and 45-47) but fails to explicitly teach the crashing agent is

provided by a member selected from the group consisting of multivalent metal nitrates, EDTA salts, phosphonium halide salts, organic acids, chloride salts, and combinations thereof. Doumaux teaches is provided by a member selected from the group consisting of multivalent metal nitrates, EDTA salts, phosphonium halide salts, organic acids (column 3, lines 65-67), chloride salts, and combinations thereof. It has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended (*In re Leshin*, 125 USPQ 416). Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to select a crashing agent from the group consisting of multivalent metal nitrates, EDTA salts, phosphonium halide salts, organic acids, chloride salts, and combinations thereof to precipitate the ink-jet composition and prevent color bleeding.

Regarding claim 37 Tomotake as modified by Koike, Nakamura and Askeland teaches wherein the crashing agent is a multivalent metal ion or ionic group (Askeland column 3, lines 31-37 and 45-47) but fails to explicitly teach the crashing agent is an acid selected from the group consisting of succinic acid, glycolic acid, citric acid, nitric acid, hydrochloric acid, phosphoric acid, sulfuric acid, polyacrylic acid, acetic acid, malonic acid, maleic acid, ascorbic acid, glutaric acid, fumaric acid, tartaric acid, lactic acid, nitrous acid, boric acid, carbonic acid, carboxylic acids such as formic acid, chloroacetic acid, dichloroacetic acid, trichloroacetic acid, fluoroacetic acid, trimethylacetic acid, methoxyacetic acid, mercaptoacetic acid, propionic acid, butyric acid, valeric acid, caprioc acid, caprylic acid, capric acid, lauric acid, myristic acid, palmitic acid, stearic acid, oleic acid, rinolic acid, rinoleic acid, cyclohexanecarboxylic

acid, phenylacetic acid, benzoic acid, o-toluic acid, m-toluic acid, p-toluic acid, o-chlorobenzoic acid, m-chlorobenzoic acid, p-chlorobenzoic acid, o-bromobenzoic acid, m-bromobenzoic acid, p- bromobenzoic acid, o-nitrobenzoic acid, m-nitrobenzoic acid, p-nitrobenzoic acid, oxalic acid, adipic acid, phthalic acid, isophthalic acid, terephthalic acid, salicylic acid, p-hydrobenzoic acid, anthranilic acid, m-aminobenzoic acid, p-aminobenzoic acid, benzenesulfonic acid, methylbenzenesulfonic acid, ethylbenzenesulfonic acid, dodecylbenzenesulfonic acid, 5- sulfosalicylic acid, 1-sulfonaphthalene, hexanesulfonic acid, octanesulfonic acid, dodecanesulfonic acid, amino acids such as glycine, alanine, valine, α-aminobutyric acid, α-aminobutryic acid, α- alanine, taurine, serine, α-amino-n-caprioc acid, leucine, norleucine, phenylalanine, and combinations thereof.

Doumaux teaches the crashing agent is an acid selected from the group consisting of succinic acid, glycolic acid, citric acid, nitric acid, hydrochloric acid, phosphoric acid, sulfuric acid, polyacrylic acid, acetic acid, malonic acid, maleic acid, ascorbic acid, glutaric acid, fumaric acid, tartaric acid, lactic acid, nitrous acid, boric acid, carbonic acid, carboxylic acids such as formic acid, chloroacetic acid, dichloroacetic acid, trichloroacetic acid, fluoroacetic acid, trimethylacetic acid, methoxyacetic acid, mercaptoacetic acid, propionic acid, butyric acid, valeric acid, caprioc acid, caprylic acid, capric acid, lauric acid, myristic acid, palmitic acid, stearic acid, oleic acid, rinolic acid, rinoleic acid, cyclohexanecarboxylic acid, phenylacetic acid, benzoic acid, o-toluic acid, m-toluic acid, p-toluic acid, o-chlorobenzoic acid, m-chlorobenzoic acid, p-chlorobenzoic acid, o-bromobenzoic acid, m-bromobenzoic acid,

p- bromobenzoic acid, o-nitrobenzoic acid, m-nitrobenzoic acid, p-nitrobenzoic acid, oxalic acid, adipic acid, phthalic acid, isophthalic acid, terephthalic acid, salicylic acid, p-hydrobenzoic acid, anthranilic acid, m-aminobenzoic acid, p-aminobenzoic acid, benzenesulfonic acid, methylbenzenesulfonic acid, ethylbenzenesulfonic acid, dodecylbenzenesulfonic acid, 5- sulfosalicylic acid, 1-sulfonaphthalene, hexanesulfonic acid, octanesulfonic acid, dodecanesulfonic acid, amino acids such as glycine, alanine, valine, α-aminobutyric acid, α-aminobutryic acid, α- alanine, taurine, serine, α-amino-n-caprioc acid, leucine, norleucine, phenylalanine, and combinations thereof (column 4, lines 6-9).

It has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended (*In re Leshin*, 125 USPQ 416). Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to select a crashing agent from the group consisting of succinic acid, glycolic acid, citric acid, nitric acid, hydrochloric acid, phosphoric acid, sulfuric acid, polyacrylic acid, acetic acid, malonic acid, maleic acid, ascorbic acid, glutaric acid, fumaric acid, tartaric acid, lactic acid, nitrous acid, boric acid, carbonic acid, carboxylic acids such as formic acid, chloroacetic acid, dichloroacetic acid, trichloroacetic acid, fluoroacetic acid, trimethylacetic acid, methoxyacetic acid, mercaptoacetic acid, propionic acid, butyric acid, valeric acid, caprioc acid, caprylic acid, capric acid, lauric acid, myristic acid, palmitic acid, stearic acid, oleic acid, rinolic acid, rinoleic acid, cyclohexanecarboxylic acid, phenylacetic acid, benzoic acid, o-toluic acid, m-toluic acid, p-toluic acid, o-chlorobenzoic acid, m-chlorobenzoic acid, p-chlorobenzoic acid, o-

bromobenzoic acid, m-bromobenzoic acid, p- bromobenzoic acid, o-nitrobenzoic acid, m-nitrobenzoic acid, p-nitrobenzoic acid, oxalic acid, adipic acid, phthalic acid, isophthalic acid, terephthalic acid, salicylic acid, p-hydrobenzoic acid, anthranilic acid, m-aminobenzoic acid, p-aminobenzoic acid, benzenesulfonic acid, methylbenzenesulfonic acid, ethylbenzenesulfonic acid, dodecylbenzenesulfonic acid, 5- sulfosalicylic acid, 1-sulfonaphthalene, hexanesulfonic acid, octanesulfonic acid, dodecanesulfonic acid, amino acids such as glycine, alanine, valine, α-aminobutyric acid, α-aminobutryic acid, α- alanine, taurine, serine, α-amino-n-caprioc acid, leucine, norleucine, phenylalanine, and combinations thereof to precipitate the ink-jet composition and prevent color bleeding.

9. Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tomotake et al (US 2003/0169320) in view of Koike et al (US 2002/0192003), Nakamura et al. (JP 2000-103044 A) and Askeland et al (US 6,443,568) as applied to claim 32 above, and further in view of Tsang (US 6,450,632).

Tomotake as modified by Koike, Nakamura and Askeland teaches all the claimed elements except explicitly wherein the crashing agent is a cationic polymer selected from the group consisting of polyvinylpyridines, polyalkylaminoethyl acrylates, polyalkylaminoethyl methacrylates, poly(vinyl imidazole), polyethyleneimines, polybiguanides, polyguanides, polyvinylamines, polyallylamines, polyacrylamines, polyacrylamides, polyquatemaryamines, cationic polyurathenes, aminecelluloses, polysacchride amines, and combinations thereof.

Tsang teaches a fixer fluid with polyethyleneimines as the crashing agent. It has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended (*In re Leshin*, 125 USPQ 416). Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to modify the system and method taught by Tomotake, Askeland and Nagata such that such that the fixer fluid of included polyethyleneimines as the crashing agent to precipitate the ink-jet composition and prevent color bleeding.

Response to Arguments

10. In response to applicant's argument regarding the U.S.C. 103 rejection of Tomotake in view of Askeland, Examiner introduces Nakamura et al. (JP 2000-103044 A) to remedy any deficiency of a teaching or suggestion or motivation to combine the references. Examiner appreciates the Applicant's claim of an unexpected result. However, both Tomotake and Nakamura suggest the application of heat and/or pressure to improve gloss. Nakamura discloses a sufficient temperature range that overlaps the temperature range disclosed in Tomotake and the claimed temperature range for the purpose of improving gloss. Therefore it appears prior art references Tomotake and Nakamura provide a suggestion and motivation for applying heat from 20℃ to 90℃, specifically to improve glossiness. Thus the improvement of gloss with the application heat from 20℃ to 90℃ is not considered an unexpected result.

11. Regarding the rejection over Tomotake, Askeland, and Nagata further in view of Doumaux Examiner submits that Doumaux is directed to coated plain paper (column 2, lines 52-60). Applicant qualifies offset media as “generally a coated printing media“(pg 3. line21) thus Doumaux is not non-analogous art and the combination is proper rejection.

Regarding the rejection over Tomotake, Askeland, and Nagata further in view of Koike Examiner submits that claim language does not require the overcoat composition to directly contact the ink-jet ink. Even if a laminated layer is between the ink-jet ink and the overcoat composition the claim is met by Koike.

Conclusion

12. Applicant's submission of an information disclosure statement under 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p) on January 19, 2011 prompted the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 609.04(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SHEMA T. FREEMAN whose telephone number is (571)270-5714. The examiner can normally be reached on Monday-Thursday 7:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on (571) 272-2258. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/S. T. F./
Examiner, Art Unit 2854

/Joshua D Zimmerman/
Primary Examiner, Art Unit 2854